

# IN53C-1917: NASA EOSDIS Enabling Science by Improving User Knowledge

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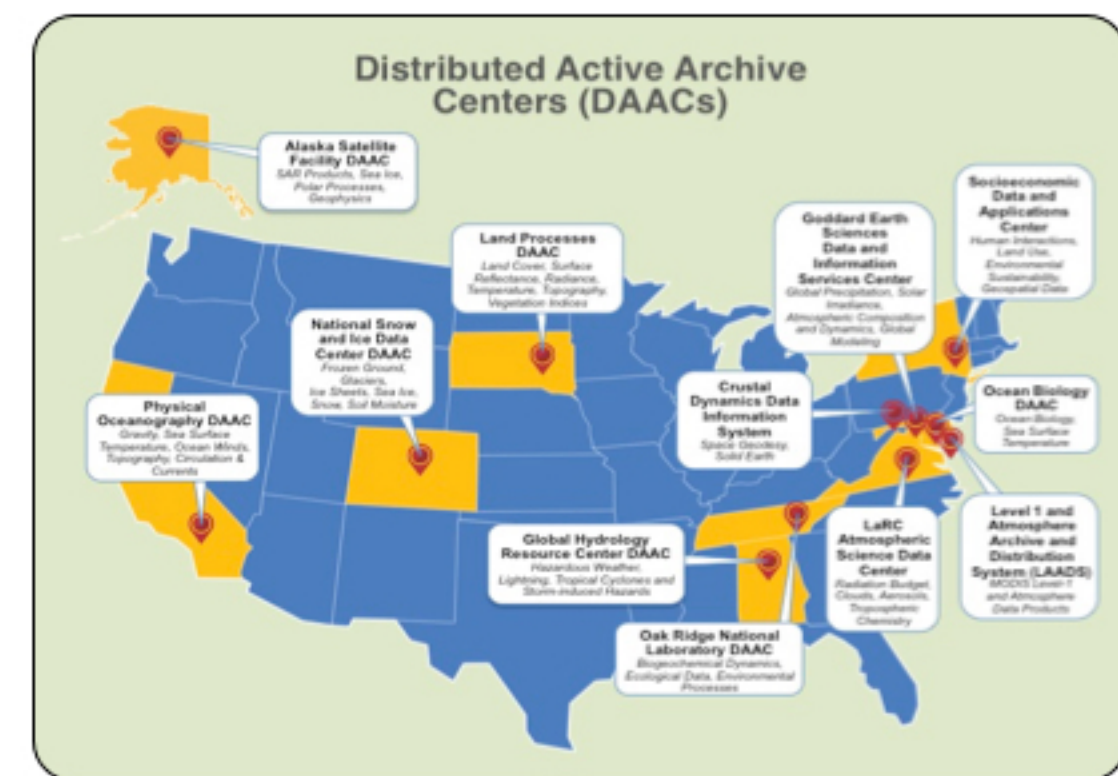
**So what is EOSDIS?** NASA's Earth Observing System Data and Information System (EOSDIS) provides end-to-end capabilities for managing NASA's Earth science data from satellites, aircraft, field measurements, and various other programs to a worldwide end-user community. This user community has grown significantly over time in both numbers and diversity of needs.

Commensurate with this growth have been substantial changes in internet-based technologies and the expectation of users demanding more sophisticated EOSDIS resources describing, highlighting, and providing insight to the vast EOSDIS data collections. To meet these increased expectations, more fully engage data users, and further increase the diversity of users, EOSDIS is continually evolving the methods and techniques used for public engagement toward more immersive and interactive forms of communication. This poster highlights some of the communication methods and forms used and developed by EOSDIS to maximize the dissemination of NASA Earth observing data and data products to an ever-growing end user community.

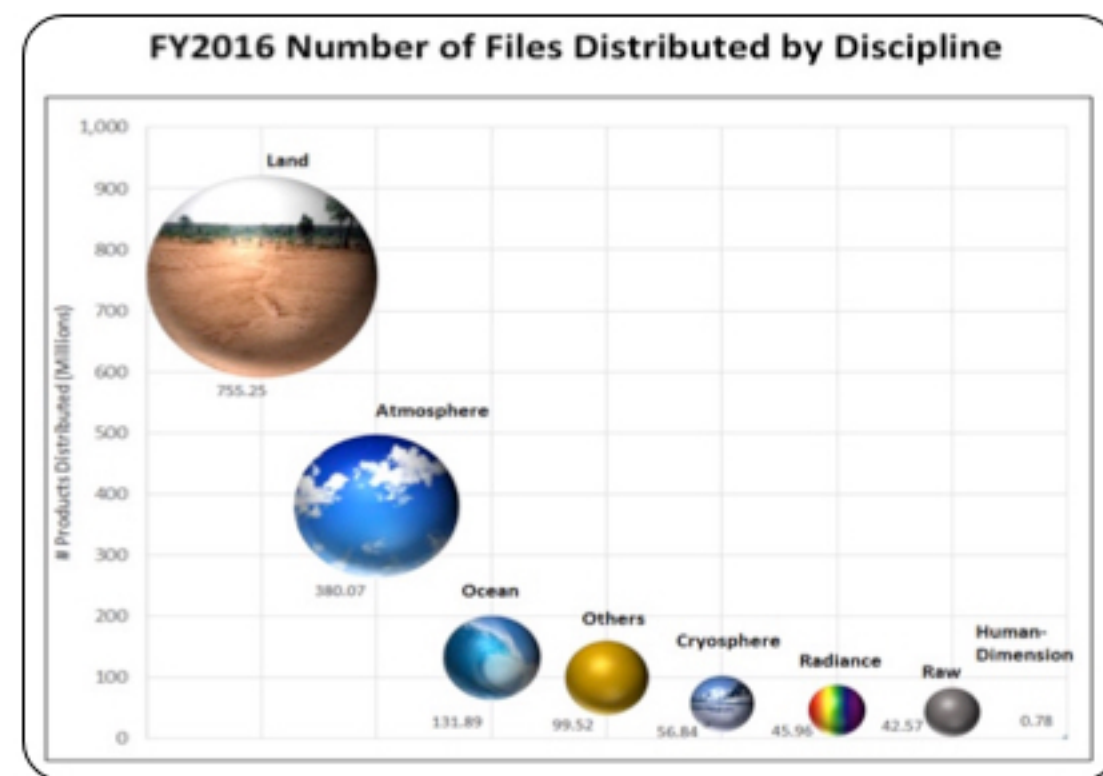
In the following panels, you will see how EOSDIS communication methods are applied, along with several examples from our current efforts. These examples include our interactive on-line webinar series focusing on data discovery and access, our informal "Data Chat" interviews with data users across our user community, our more formal Data User Profile articles featuring in-depth descriptions of research conducted by our data users and the data products they use in their research, and our innovative data search and discovery applications and services such as Earthdata Search and Worldview.

**Who are the users of EOSDIS?** EOSDIS has been a central component of NASA's Earth observation program since the 1990s and provides free and open access to more than 17.5 petabytes of Earth observing data. The more than 11,000 unique data products available through EOSDIS include not only highly-processed standard data products, but also near real-time products that generally are available within three hours of a sensor overflight.

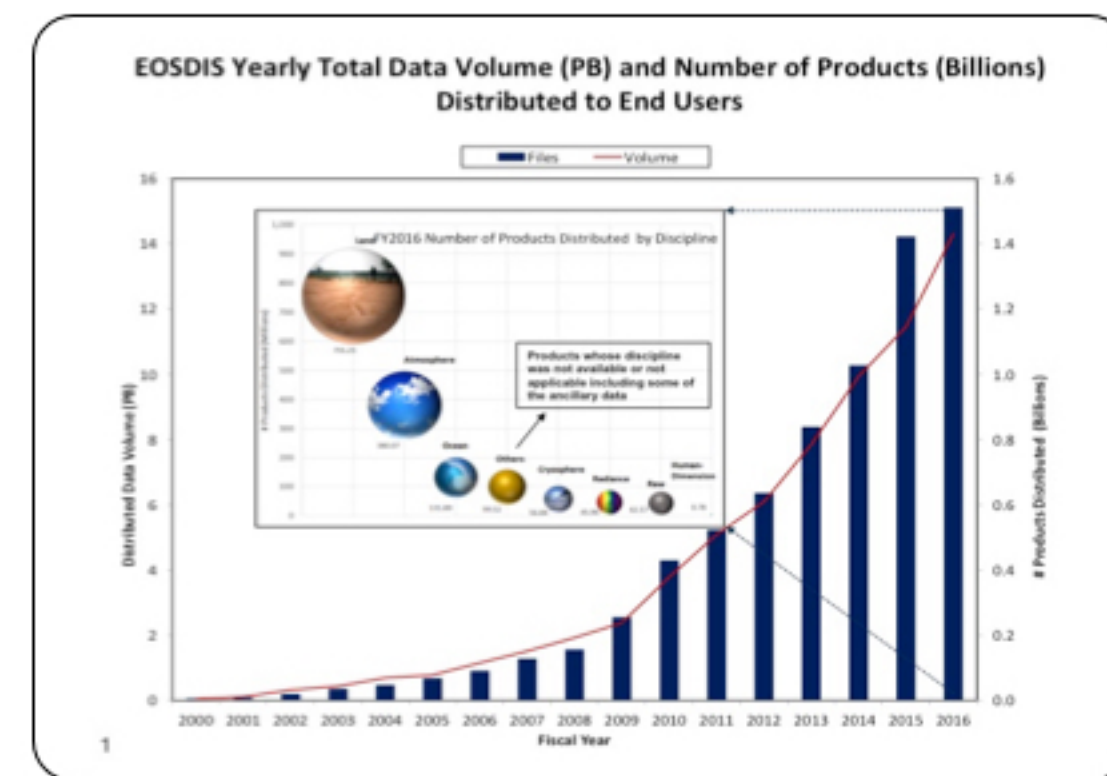
In Fiscal Year 2016, EOSDIS delivered over 1.51 billion data products to more than 3.0 million end-users around the world. EOSDIS is part of NASA's Earth Science Data System Program that oversees the lifecycle of Earth science data with the objective of maximizing the scientific return from NASA missions and experiments. NASA engages with multiple U.S. agencies and international partners to facilitate the use of these data by the broadest possible community with minimal effort and maximal consistency with other data sources.



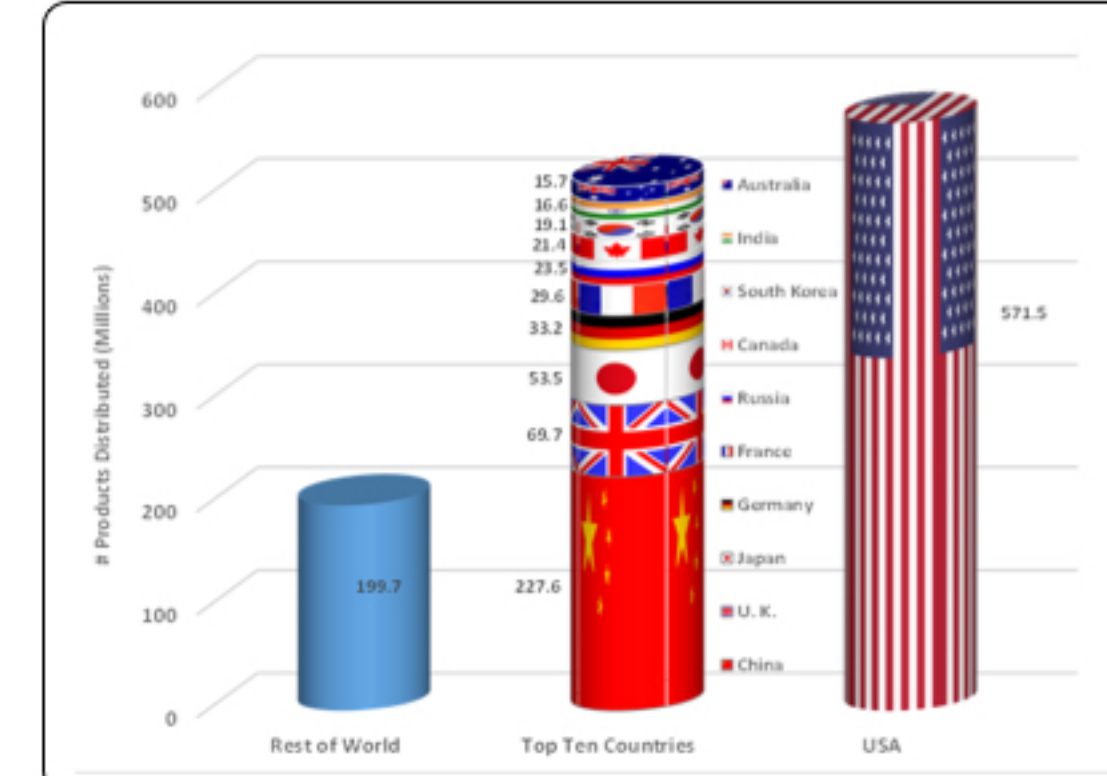
Data in the EOSDIS collection are processed, archived, and disseminated through 12 discipline-specific centers across the U.S. EOSDIS image.



This image shows data product distribution in FY 2016- more than 50 percent of the products distributed were land discipline data products.



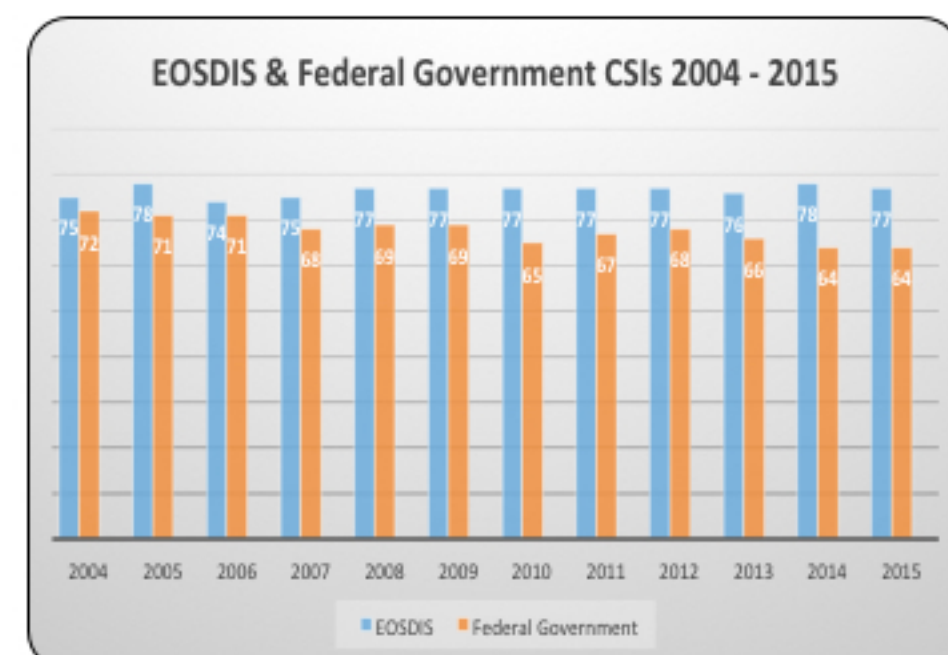
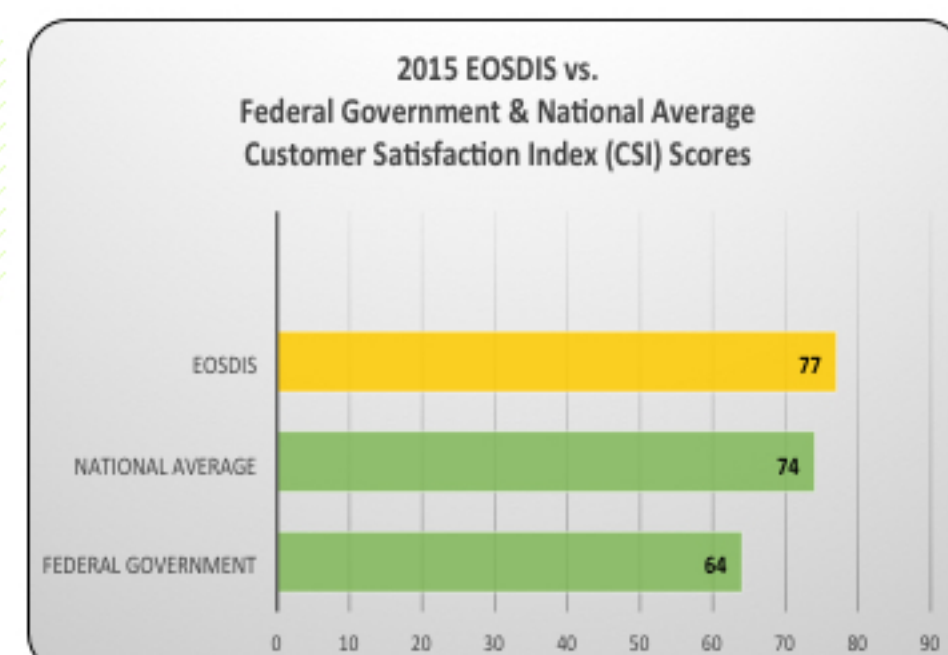
There has been a steady increase in the number of products distributed over the last 16 years.



Over forty-five percent of the data downloaded in FY 2016 was downloaded by users in the United States, while approximately forty percent was downloaded by the users from foreign users. The Top 10 countries (excluding the US) account for 75% of foreign distribution.

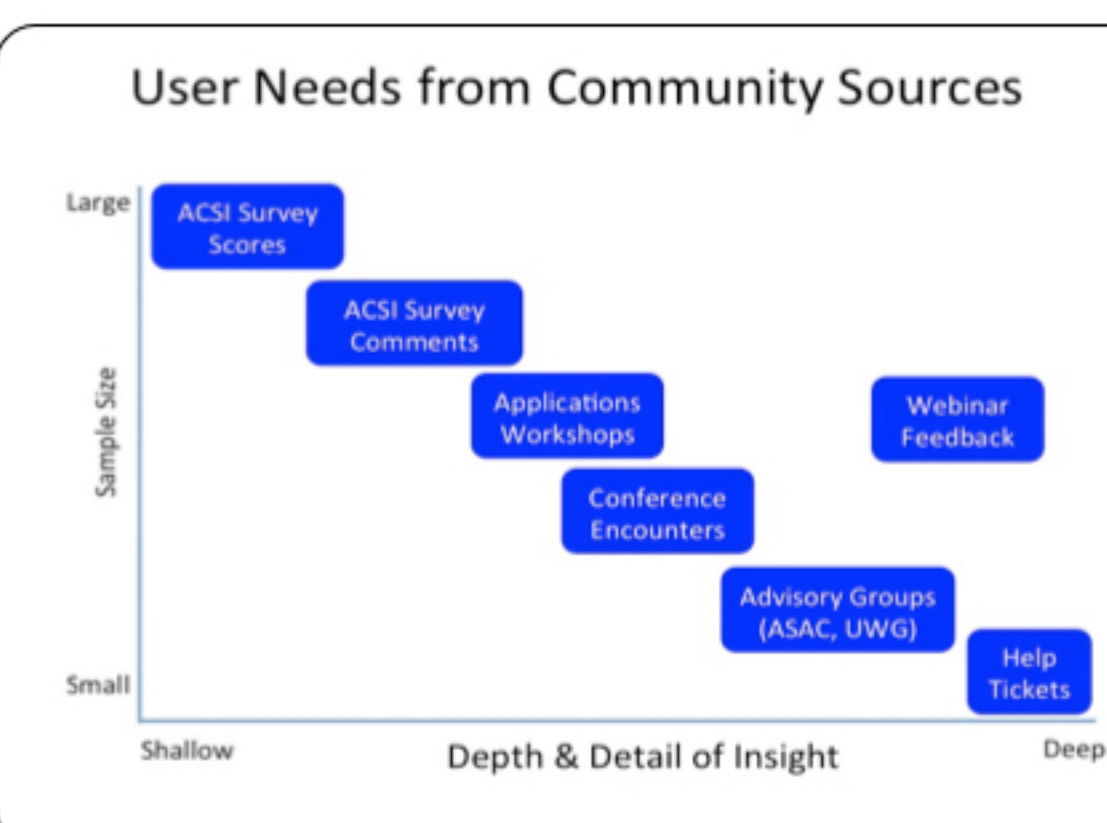
## Methods for Capturing User Needs

The EOSDIS American Customer Satisfaction Index (ACSI) survey is conducted annually by CFI Group, an independent organization under contract to the federal government that uses the ACSI survey methodology to track customer satisfaction with more than 100 federal or local government services, websites, and programs. The EOSDIS score of 77 is consistent with EOSDIS CSI scores since 2008. EOSDIS has never received a CSI below 74 and has consistently outscored the federal government since the EOSDIS ACSI survey was first conducted in 2004. EOSDIS uses the ACSI survey results to continually improve customer service and products available through the DAACs.



EOSDIS uses a variety of tools to gather inputs from our broad user community. Each of these various tools target a particular segment of our users from large calls for inputs to specific technical issues and insights.

These inputs from multiple sources including face-to-face meetings, advisory groups, workshops, webinars and others form the continuum shown above. These inputs range from shallow inputs from large numbers of users to those made by a few users but have significant detail to EOSDIS system elements. These are collected at regular intervals.



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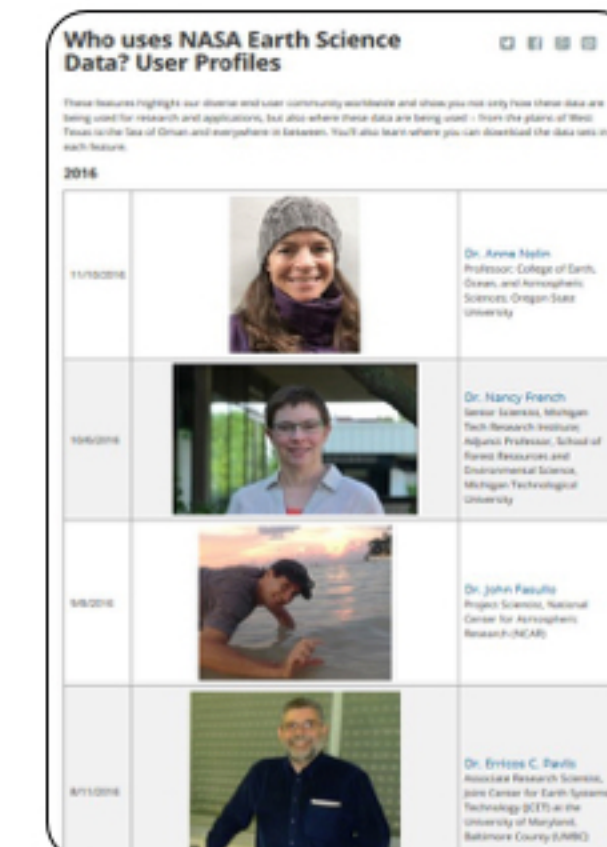
## Enabling EOSDIS User Knowledge

### View your World with Worldview

Worldview is a web-based application for interactively browsing global, full-resolution satellite imagery and then downloading the underlying data. Most of the 200+ available products are updated in near real-time, essentially showing the entire Earth as it looks "right now" - or at least as it looked within the past few hours. Newly added functionality include the ability to view current natural hazard events occurring around the world, animate imagery over user specified periods of time and rotate imagery in the polar views. Worldview supports time-critical application areas such as wildfire management, air quality measurements, and flood monitoring.

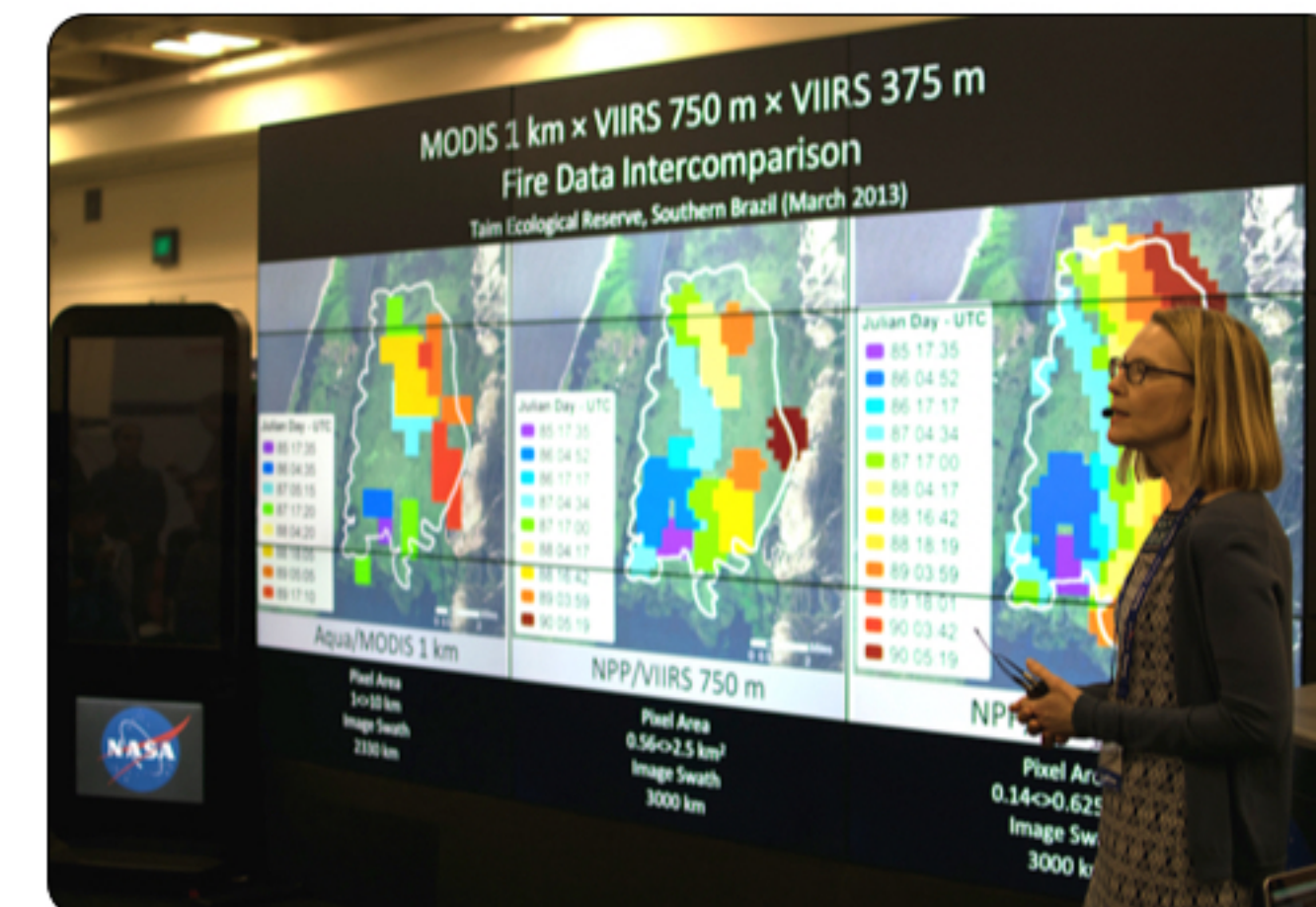


Data Chats: The Data Chats were started in March, 2016 and are informal discussions with scientists, managers, and members of our diverse data-user community who provide personal insights into how NASA's Earth observing data are being used around the world.



User Profiles: These features highlight our diverse end-user community worldwide and show you not only how these data are being used for research and applications, but also where these data are being used -- from the plains of West Texas to the Sea of Oman and everywhere in between. Data citations and DOI information for data products are included in these features.

### PUBLIC PRESENTATIONS



Diane Davies, Operations Manager for NASA Land Atmosphere Near Real-Time Capability for EOS (LANCE) giving a flash talk at AGU 2015.

Quarterly newsletters highlight NASA Earth Observing System Data and Information System (EOSDIS) efforts supporting the acquisition, processing, and dissemination of NASA Earth science data. Each issue features data set and data tool news, highlights of our top stories, featured data images and data user profiles.

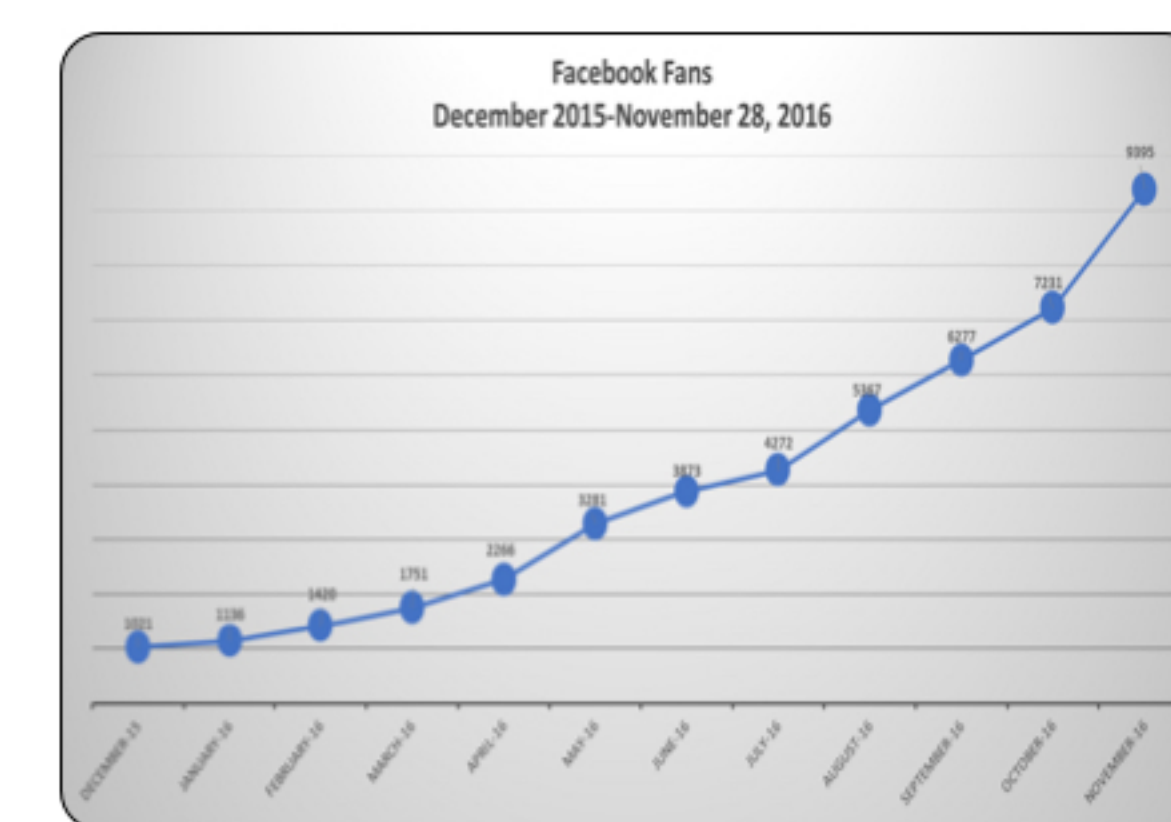
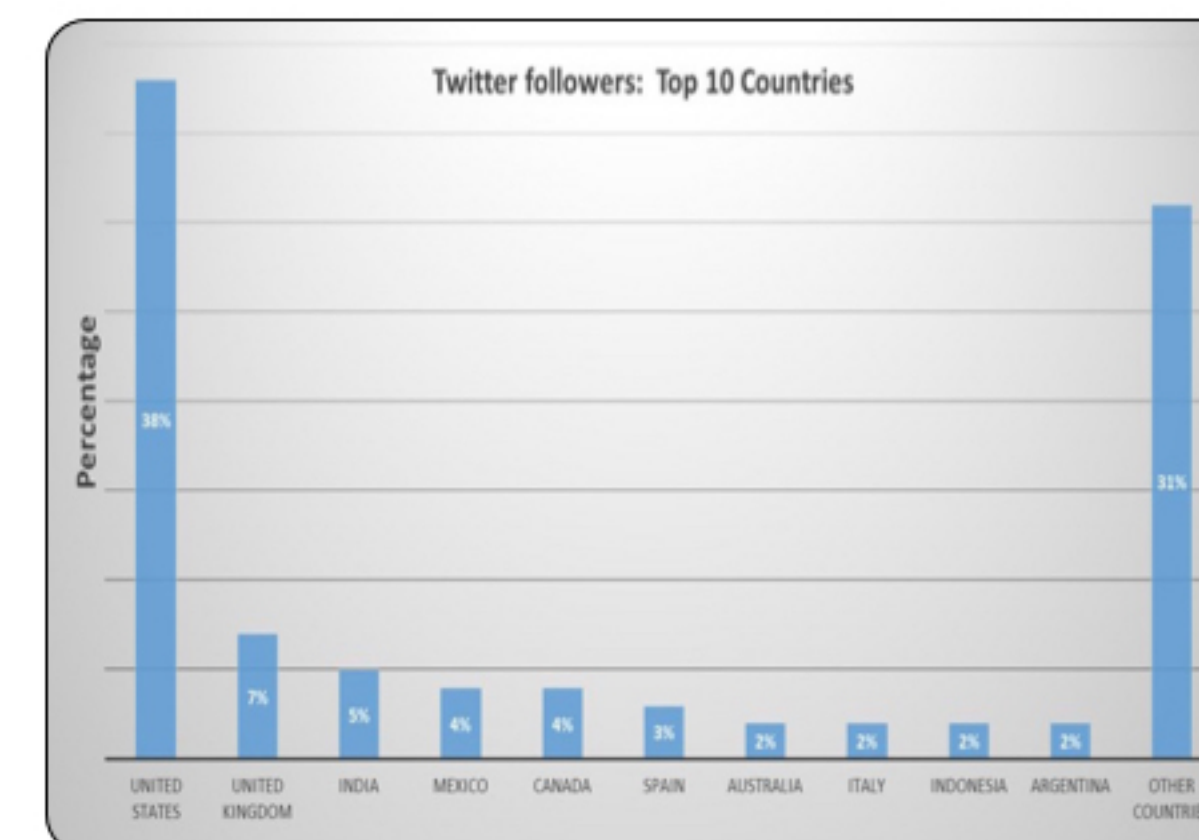


Stories that showcase how NASA Earth science data are used to enable research and applications. <https://earthdata.nasa.gov/user-resources/sensingour-planet>

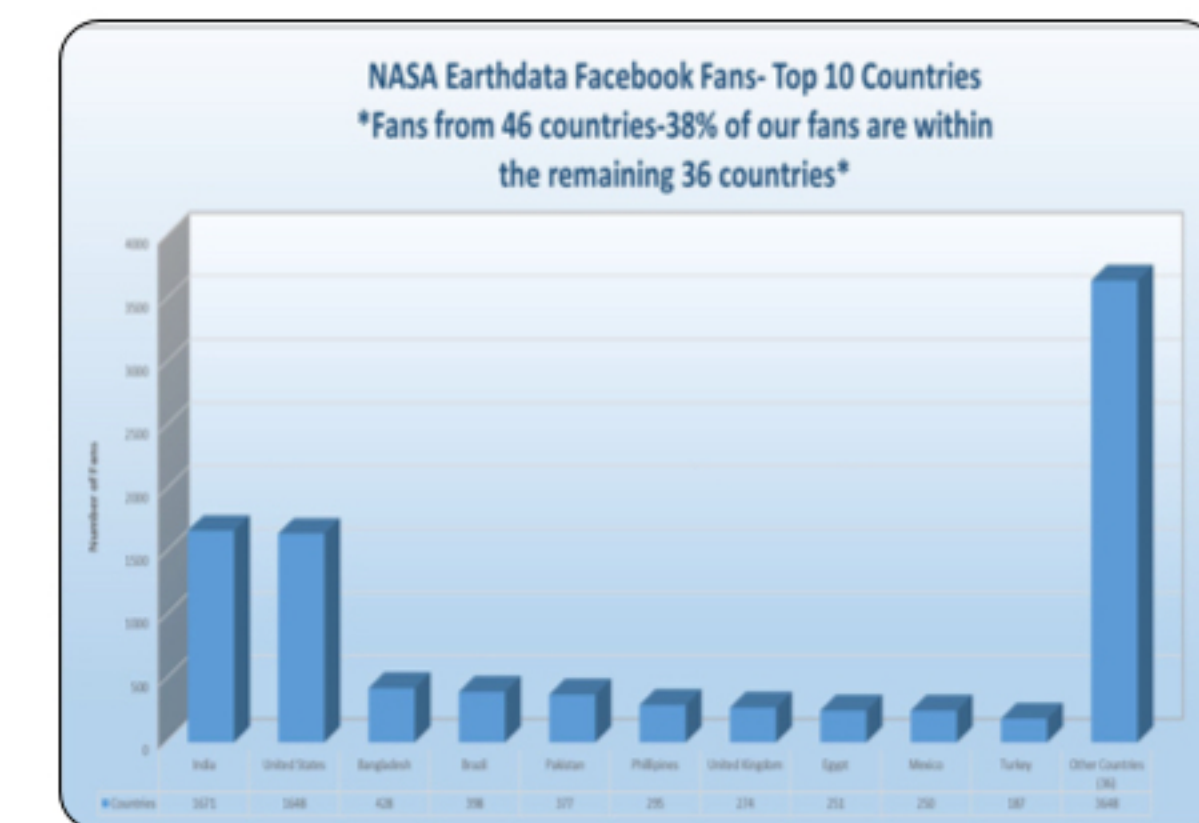


### REGULAR PUBLICATIONS of EOSDIS ACTIVITIES

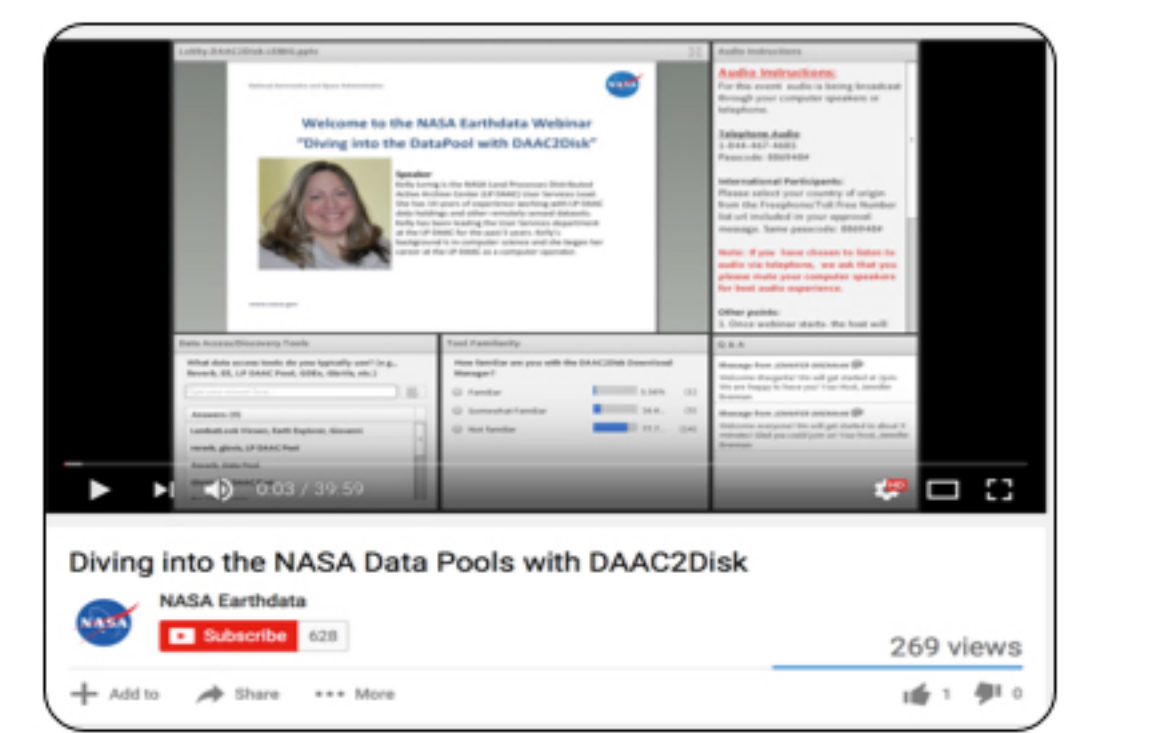
## How is EOSDIS using Social Media?



820% increase in number of Facebook fans since December 2015.



Social media is the collective of online communications channels dedicated to community-based input, interaction, content-sharing and collaboration. Websites and applications dedicated to forums, microblogging, social networking, social bookmarking, social curation, and wikis are among the different types of social media.



## Take-Aways for Improving User Engagement

- Increase the production of short data "how-to's", data recipes and tutorials. Provide these resources in variety of formats to include multimedia, pdf instructions and interactive instructions
- Increase our outreach to early career scientists
- Maintain free and open access to our data, documentation and code to enable scientists and our diverse end-user community to tell their own story.
- Increase the interdisciplinary usage of our data by continuing to increase awareness.
- Continue to foster two-way communication with our user community. Their feedback is valuable in new application/tool development and in providing relevant user resources.